

# Federal Republic of Nigeria Official Gazette

No. 50	Lagos - 25th May, 2011		Vol. 98
Government Notice	No. 137		
	is published as Supplement to this Gazette :		
S. I. No.	Short Title		Page
23 National Environmental (Electrical/Electronic Sector) Regulations, 2011		B 729-797	

Printed and Published by The Federal Government Printer, Lagos, Nigeria FGP 75/72011/400 (OL 47)

Annual Subscription from 1st January, 2011 is Local : \$15,000.00 Overseas : \$21,500.00 [Surface Mail] \$24,500.00 [Second Class Air Mail]. Present issue \$3,500.00 per copy. Subscribers who wish to obtain *Gazette* after 1st January should apply to the Federal Government Printer, Lagos for amended Subscriptions.

## NATIONAL ENVIRONMENTAL, (ELECTRICAL/ELECTRONIC **SECTOR) REGULATIONS 2011**



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#### S. I. No. 23 of 2011

#### NATIONAL ENVIRONMENTAL (ELECTRICAL ELECTRONIC SECTOR) REGULATIONS 2011

In exercise of the powers conferred on me by Section 34 of the National Environmental Standards and Regulations Enforcement Agency (Establishment) Act, 2007, and all other powers enabling me in that behalf, I, MR JOHN ODEY, Honourable Minister, Federal Ministry of Environment, hereby make the following Regulations—

[28th April, 2011] Co

Commencement.

Thrust.

#### PART I—GENERAL PROVISIONS

1. These Regulations may be cited as the National Environmental Citation. (Electrical/Electronic, Sector) Regulations, 2011.

2.—(1) The principal thrust of these Regulations is to prevent and minimize pollution from all operations and ancillary activities of the Electrical/ Electronic Sector to the Nigerian environment. These Regulations shall cover both new and used Electrical/Electronic Equipment (EEE/UEEE).

(2) These Regulations are based on life cycle approach and shall cover all the aspects of the electrical/electronic sector from cradle to grave.

(3) The principles of these Regulations shall be anchored on the 5Rs which are ; Reduce, Repair, Re-use, Recycle and Recover as the primary drivers of the sector and shall encompass all the categories and EEE lists as specified in Schedule I to these Regulations.

3.—(1) All new EEE imported into the country shall be functional and have the date of manufacture inscribed on them and warranty indicated.

(2) All EEE imported into the country or assembled in the country shall have the Pin and Serial numbers inscribed on them.

(3) Any body corporate or organisation intending to import new EEE into the country shall register with the Agency.

(4) All used EEE imported into the country shall comply with the provisions as specified in Schedule II to these Regulations and shall be :

(a) of comparative model of equipment ;

(b) fit for purpose ;

(c) functional and not scrap;

(d) such that the outward/external appearance of the item does not show any waste characteristics ; and

(e) Properly packaged for protection during transport, loading and unloading.

Importation of EEE.

EEE Facility Requirements. **4.**—(1) Every EEE manufacturing, processing, operational, power organisation (generation, transmission and distribution) and Waste Electrical Electronic Equipment (WEEE)/E-Waste facility shall :

(a) carry out Environmental Impact Assessment (EIA) for new projects or modification including expansion of existing ones before commencement of activity;

(b) submit to the Agency an Environmental Audit Report (EAR) of existing facility every 3 years ;

(c) without prejudice to sub-regulation 1(b) of this Regulation, where a body corporate/organisation is to be decommissioned, transferred or alienated for any reason whatsoever, submit to the Agency an Environmental Assessment Report for verification and approval;

(d) submit a right-of-way Maintenance Plan to the Agency ; and

(e) submit to the Agency an Environmental Management Plan (EMP) for existing facility, every 5 years as contained in Schedule III to these Regulations.

(2) Every body corporate or organisations shall apply up-to-date, Best Practicable Environmental option, Cleaner Production and Green Technologies to reduce pollution to a minimum of the national standards.

(3) All body corporate or organisations shall adopt energy efficiency measures to ensure resource conservation.

(4) The energy efficient measures adopted by the facility shall be elaborated in the EAR which is to be submitted to the Agency as stated in regulation 4(1b) of this regulation.

(5) The National Standards for effluent or emission limitations represent minimum standards and different effluent standards shall be required based on the condition of the receiving medium.

(6) Emphasis on environmental planning shall be to prevent and/or reduce and/or eliminate pollutants at source and less emphasis shall be placed only on end-of-pipe mechanisms.

(7) Every body corporate or organisation shall adopt the principle of 5Rs which are Reduce, Repair, Re-use, Recycle and Recover, within two years of the coming into force of these Regulations.

Emergency Response Plan. 5.—(1) Every body corporate or organisation shall plan and set up machinery for combating pollution hazards and maintain equipment in the event of an emergency.

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(2) Every body corporate /organisation shall for the purposes of subregulation (1) of this regulation, have an emergency response plan and a stock of pollution response equipment which shall be readily accessible and available to combat pollution hazards in the event of accidents such as accidental discharges as specified in Schedule IV to these Regulations.

(3) The owner or operator of a WEEE Facility shall prepare and put in place a functional Emergency Response plan that describes the measures to be taken in respect of the discharge of deleterious substance(s); to prevent any deposit(s) and or discharges out of the normal course of events of such substance(s) and to mitigate the effects of such deposit(s) and or discharge(s). The emergency response plan shall include such details as specified in Schedule IV to these Regulations.

**6.**—(1) Every body corporate/organisation shall install anti-pollution equipment for the detoxification/treatment of effluent and emission emanating from their facility so as to meet the prescribed effluent and emissions standards.

(2) The installation of anti pollution equipment made pursuant to subregulation 6 (1) of this regulation shall be based on the Best Available Technology (BAT) or the Best Practicable Technology (BPT) for such substance(s) and to mitigate the effects of such deposit(s) and or discharge(s). The emergency response plan shall include such details as specified in Schedule IV to these Regulations.

7.—(1) The Polluter-Pays-Principle shall apply to every body corporate or organisation that pollutes.

(2) The collection, treatment, transportation and final disposal of wastes shall be the responsibility of the body corporate/organisation generating the wastes within the specified standards and guidelines.

(3) In the event of an incident resulting in an adverse impact on the environment whether socio-economic or health wise, the facility shall be responsible for :

(a) the cost of damage assessment, control and clean-up;

(b) remediation ; and

(c) reclamation and/or restoration.

**8.**—(1) Implementation of cleaner production processes and pollution prevention measures shall be employed to yield economic, social and environmental benefits as specified in Schedule V to these Regulations.

(2) All EEE manufacturing, processing, assembling organisation or corporate body shall apply new technologies arising from the elimination of hazardous materials in many new-model EEE.

of antipollution equipment.

Installation

Polluter-Pays-Principle.

Best Practices. (3) For any EEE manufacturing, processing, assembling organisation or body corporate, pollution prevention measures shall focus on minimization in the use of hazardous substances contained in Schedule XVI to these Regulations.

(4) All damaged and disused equipment including wires, Cathode Ray Tubes (CRTs), metals, motors, transformers, plastics etc, shall be amenable for ecovery under Extended Producer Responsibility Program by NESREA accredited Recyclers in an Environmentally Sound Manner (ESM).

(5) All waste from Electrical Electronic product assembly or manufacturing with hazardous properties shall be clearly labelled and stored separately from the general waste and contained in storage areas that are chemically resistant before disposal in an environmentally sound manner.

Best Practices in ICT Sector.

Pollution Control Organisational System.

Extended Producer Responsibility. **9.** In Telecommunication industry or body corporate/organizations deploying EMF in their operations shall employ best practices as stipulated in the National Environmental (Standards for Telecommunications/ Broadcasting Facilities) Regulations 2011 in addition to Schedule VI to these Regulations.

**10.**—(1) Every body corporate or organisation shall put in place organizational system for pollution control. It shall assign a qualified Environmental Manager (EM)/Pollution Control Manager (PCM) who oversees pollution control and prevention duties. The organizational system shall be as specified in Schedule VII to these Regulations.

(2) It is important for the capacity of PCMs to be continually strengthened with the ultimate goal of attaining the Agency's required qualification and certification as specified in Schedule VII to these Regulations.

11.—(1) Every importer, exporter, manufacturer, assembler, distributor, and retailer, of various brands of EEE products shall subscribe to an Extended Producer Responsibility Program including the Buy Back as specified in Schedule VIII to these Regulations.

(2) The importers/distributors for all EEE equipment traded or donated to individuals, educational institutions, religious organizations, communities or body corporate by whatever means, shall comply with sub-regulation (1) of this regulation.

(3) Manufacturers and Importers of EEE shall partner with the Agency on the Extended Producer Responsibility Program within two years of commencement of these Regulations in order to achieve the Buy Back Program within a period of two years.

(2) All EEE manufacturing, processing, assembling organizations of commutations shall apply new technologies anythin from the eliminations maxandous materials to many the symplet EEE. (a) manufacturers, Importers, Distributors or Retailers to take back the end-of-life EEE and setup collection points/centres ;

(b) manufacturers and producers of EEE to ensure Environmentally Sound Management of e-waste from collection points or centres to NESREA accredited recyclers ;

(c) consumers to return end-of-life EEE to the collection points or centres ; and

(d) all importers of new and/or used EEE to pay an administrative cost to NESREA to promote Environmentally Sound Management of WEEE.

**12.**—(1) All permits (notices, orders, consent or demand) shall be in writing and as set out in the National Environmental (Permitting and Licensing Systems) Regulations, 2009.

(2) A body corporate or organisation shall not undertake the following without permit from the Agency :

(a) discharge or cause to be discharged any effluent, or oil in any form into water system, public drains, or underground injection and land; and

(b) release hazardous or toxic substances into the water or land or air of Nigeria's ecosystem beyond the permissible limits as specified in Schedules IX and X to these Regulations.

13.—(1) There shall not be contamination arising from leakage of surface/underground oil/fuel or chemicals storage tank likely to cause pollution of the environment including surface water and groundwater.

(2) Every body corporate or organisation shall have an impermeable base for any ancillary equipment and provide an appropriate bund wall in the event of any unanticipated discharge or spillage.

(3) Everybody corporate or organisation with underground tanks and fuel dumps shall be installed with leak detection equipment and shall be regularly inspected for leakages to prevent seepage into ground water.

14. Every body corporate or organisation shall have a sustainable community relations program as part of demonstration of compliance with her Corporate Social Responsibility.

### EFFLUENT LIMITATION

15.—(1) The National Environmental Standards in relation to effluent limitations for the sector shall be as specified in Schedule X of these Regulations.

(2) Any effluent shall be deemed to be non-compliant and polluted if :

Management of oil station and fuel dumps site.

Permits.

Community Relations.

Effluent Limitation Standard. (a) the concentration of any of its parameters exceeds the permissible limits as specified in Schedule X to these Regulations ;

(b) it does not comply with the corresponding limit specified in the fourth column in Schedule X to these Regulations, as the case may be;

(c) it is discharged without pre-treatment.

(3) Effluent as described in sub-regulation (2) of this regulation shall be treated to attain the minimum standard as specified in Schedule X to these Regulations before discharge.

Restriction on the release of toxic effluent. 16.—(1) A body corporate or organisation shall not discharge effluent/ oil onto land, into a watercourse or into a water body unless the body corporate or organisation ensures that the parameters of the effluent does not exceed the permissible limits specified in Schedule X to these Regulations.

(2) Notwithstanding sub-regulation (1) of this regulation, any body corporate or organisation using an inffluent, shall ensure that the concentration or value of any of the parameters of the effluent conforms to the prescribed standard specified in Schedule X to these Regulations.

Treatment of effluent. 17.—(1) Every body corporate or organisation shall—

(a) carry out effective treatment of effluent all the time that the facility, plant or unit is operating ;

(b) ensure the Environmentally Sound Management of sludge in accordance with relevant Regulatory Authorities standards;

(c) ensure the treatment and disposal of toxic organics contained in both effluent and sludge in a manner approved by the Agency;

(d) ensure that effluent is not diluted to achieve the standards specified in Schedule X to these Regulations.

(2) Body corporate or Facilities generating effluents that contain toxic organics shall employ best practicable technology to effectively destroy or remove toxic organics and the resulting residue shall be disposed of in an environmentally sound manner as prescribed by the Agency.

**18.**—(1) A body corporate or organisation shall not discharge sludge directly into any water body.

(2) Any discharge to any part of the environment is prohibited except under a sludge disposal permit.

(3) Sludge disposed onto land shall be classified and none of its components shall exceed the specified limit in Schedule X to these Regulations.

Sludge Disposal. (4) Any sludge beside purely domestic or organic sludge and purely agricultural (Organic) sludge will be treated as hazardous waste and subject to the provisions of the Harmful Waste Act (Special criminal Provisions) Cap H1 LFN, 2004.

(5) Hazardous Sludge shall be treated and disposed of in a secure landfill approved by the Agency.

#### Emissions

**19.** Every body corporate or organisation shall comply with the specified Air Emission Standards in schedule XI to these Regulations.

**20.**—(1) Every body corporate or organisation with any source or potential source of emission shall be required, to measure the emission of every priority air pollutant emitted there from and to develop and implement a plan to control such emission in accordance with the Standards as specified in Schedule XI to these Regulations.

(2) Every body corporate or organisation shall be required to report the emission data, sources of emissions and undertake emission reduction in accordance with the implementation plan which shall be reviewed every three years by the Agency.

(3) Every body corporate or organisation shall ensure that it measures the odour detection threshold and the odorous dilution ratio of the working environment or emissions. The dilution method of testing odours shall adopt American Society for Testing Materials (ASTM) or any other method as may be specified by the Agency to safeguard the health of the workers.

**21.**—(1) A body corporate or organisation shall not burn, or be permitted to burn light fuel oil containing over 0.5 percent sulphur by weight as fired in an existing source or in a new source.

(2) A body corporate or organisation shall not burn, or be permitted to burn medium fuel oil containing over 1.1 percent sulphur by weight as fired.

(3) Notwithstanding the provisions of sub-regulations (1) and (2) of this regulation, heavy fuel oil with no more than 3% sulphur may be burnt at a new or existing body corporate or organisation with new fuel combustion sources or a combination of new and existing fuel combustion sources if :

(a) one or more of such sources operate in a manner that sulphur dioxide is absorbed by coming into contact with the product or with a scrubbing device or other material; and

Emission Standards.

Priority Air Pollutants.

Burning of Fuels.

(b) the actual total sulphur dioxide emissions from the entire body corporate or organisation are less than the allowable sulphur dioxide emissions.

Treatment Technologies (Pollution Abatement) for Air Emissions. 22.—(1) Every body corporate or organisation which discharges gaseous substances shall reduce such to the permissible limits as specified in Schedule XI to these Regulations using appropriate treatment technologies.

(2) Reduction shall be achieved through the use of appropriate pollution abatement technologies for minimizing the release of significant pollutants to the air including the following :

(a) stack gas scrubbing, carbon adsorption or combustion (for toxic organics);

- (b) bag houses (for particulate matter removal);
- (c) biological filters; and
- (d) cyclone, or any other appropriate technology.

#### NOISE

Noise Standards. 23. Noise standards shall be subject to the National Environmental (Noise Standards and Control) Regulations, 2009.

Noise Abatement.

Hearing Conservation Program. 24. Every body corporate or organization shall evaluate its installations and ensure that routine controls are sufficient to prevent risks of noise pollution.

**25.**—(1) Every body corporate/organisation in the sector shall administer a continuing, effective hearing conservation program, whenever employee noise exposures equal or exceed an 8-hour time-weighted average sound level (TWA) of 90 decibels measured on the A scale (slow response) or, equivalent to a dose of 80 as stipulated by Occupational Safety and Health Act, Laws of the Federation of Nigeria 2004, OSHA 18001 as specified in Schedule XII to these Regulations.

(2) For purposes of the hearing conservation program, employee noise exposures shall be computed, regardless of the provision and the use of Personal Protective Equipment.

(3) An 8-hour time weighted average of 90 decibels shall be referred to as the action level.

Noise Monitoring. **26.** Monitoring shall be repeated whenever a change in production, process, equipment or control, increases noise exposures to the extent that :

(1) additional employees may be subjected to risk at the action level; or

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Noise

Measurements.

**33.**—(1) Noise levels shall be measured with instrument having both A and C weighting, a resolution not more than 0.1 dB and fast /slow responses.

(2) Measurement shall be taken at least 3 meters from any barrier or other sound reflecting sources, at about 1.2 - 1.5 meters above ground level or working platform and shall last for at least 10 seconds.

(3) Daytime (07:00 - 22:00) and night time (22:00 - 7:00) measurements shall be taken at the fence line of any facility.

PART III E-WASTE-CONTROL

**34.**—(1) Every importer and technician (involved in repair, dismantling and re-assembling) of used EEE shall ensure that e-waste is handled by a person and or body corporate registered to do so by the Agency.

(2) End-of-life, unusable or unserviceable EEE are prohibited from being imported into Nigeria.

(3) The importation of Cathode Ray Tubes (CRT) into the country is banned.

(4) Every person, body-corporate or organisation in charge of a collection centre shall ensure that e-waste :

(a) are not stored longer than one year onsite ;

(b) are not disposed in trash receptacles or at a dump-site and or landfill;

(c) collected for recycling are transported to the designated recyclingcentre ; and

(d) open burning is prohibited.

(5) Every body corporate or organisation shall ensure that the facility is maintained in a clean and orderly condition;

(6) Operator of e-waste collection centers and transporter to recycling plants shall :

(a) maintain copies of all e-waste manifests and/or receipts and copies shall be made available for review during an inspection visit by officers of the Agency;

(b) forward a copy of the e-waste manifests to the Agency within 30 days of waste removal ; and

(c) sign copies of the e - waste manifest.

(7) Every body corporate or organisation, which generates e-waste, shall separate such at source from other wastes streams.

E-Wastes Handling. Registration/ Licensing Approval. **35.** Every body corporate or organisation intending to establish e-waste collection centre or recycling plant shall :

(a) register with the Agency; and

(b) Provide information for approval to operate the facility as specified in Schedule XIII to these Regulations.

Prohibition on e- waste, **36.**—(1) A person or body corporate or organisation shall not discard and or throw and or drop any e-waste anywhere except in designated bin, collection centre and or point ;

(2) Every operator of a facility, technician, assemblers or scavengers of e-waste shall practice Environmentally Sound Management (ESM) of e-waste and shall not :

(a) burn e-waste in the Nigerian environment ;

(b) dispose of e-waste along side domestic and/or municipal waste;

(c) dispose e-waste at dump site, land-fill site, water body, etc ;

(d) break Cathode Ray Tubes (CRTs), in an unsound environmental manner;

(e) release Chlorofluorocarbons (CFCs) from fridges and other cooling systems ; and

(f) leach precious metals with acids and other hazardous waste from Printed Wire Boards (PWBs) or Printed Circuit Boards(PCBs).

37. Every body corporate or organisation involved in the handling of e-

Use of PPE.

Citizens Obligation.

Collection Centre/

Recycling

Plant operations. waste shall ensure that the technicians, repairers or scavengers wear appropriate Personal Protective Equipment (PPE).

**38.** It shall be the responsibility of individual, group of persons, body corporate, to :

(a) report any fly tipping and disposal of e-wastes in an undesignated location to the appropriate authority; and

(b) incorporate sound environmental care in their day to day activities.

**39.**—(1) Any body corporate or organization operating an e-waste recycling plant shall comply with the requirements specified in Schedule XIII to these Regulations;

(2) Any owner or operator of e-waste collection centre or recycling plant shall comply with the guidelines as specified in Schedule XIV to these Regulations.

Record keeping.

**40.**—(1) Every producer or importer of EEE, shall keep records and furnish the Agency in writing of the quantity of all EEE which has been imported in the preceding year into the country by the 31st of March of every year.

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(2) An operator of any collection centre and recycling plant shall keep records and furnish the Agency in the prescribed format quarterly of the quantity of e-waste received and the quantity recycled and shall keep such records for a minimum period of 5 years.

**41.**—(1) A person shall not export or transit e-waste without a valid trans-boundary and movement permit issued from the Federal Ministry of Environment.

(2) An export permit issued under these Regulations shall relate to the specific export transactions and shall not be valid for any subsequent export transactions.

42. An applicant for a permit issued under these Regulations shall satisfy the Agency that he has subscribed to appropriate insurance policies for the applicant's staff and the public covering risks likely to arise, out of the activity for which the license is required.

PART IV—PERMITS (GENERAL PROVISION)

**43.**—(1) Procedures for for permits and revocation of such permits where they have already been issued shall be as provided in the National Environmental (Permitting & Licensing System) Regulations, 2009, S.I.29.

(2) A permit is designed to allow the holder thereof to conduct activities listed in this permit only after strict compliance with conditions and applicable effluent limitations. The permit explicitly states what activities shall be unlawful without a permit.

(3) Every body corporate or organisation involved in EEE manufacturing, processing, recycling, e-waste collection, power (generation, transmission, distribution), broadcasting and telecommunications shall obtain permit from the Agency as relevant to the organisation and such permits shall be in the format contained in Schedule XVII to these Regulations and shall include :

- (a) EEE import permit ;
- (b) EEE export permit;

(c) E-waste Collection centre Permit ;

- (d) E-waste Recycling Permit;
- (e) Installation/Operation permit;
  - (f) Industrial/Commercial discharge permit; and
- (g) Sludge disposal Permit.

44. A permit shall become effective from the day of issuance and shall the expire on December 31st of the second year and shall thereafter be renewable once in every two (2) years.

Effective Date/ Validity.

Transit . Permit.

Insurance policy

Permits Generally. Transfer of Permits.

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**45.**—(1) A permit whether Industrial, Commercial Discharge, EEE Import, sludge disposal installation or operation shall not be transferable without the consent of the Agency.

(2) A permit holder shall notify the Agency not later than sixty (60) days before any proposed change in ownership.

(3) The new owner shall be responsible for completing the process of transfer of a permit required by the Agency.

Permit Application Procedure.

Permit Terms and Conditions. **46.** Upon receipt of necessary information and the appropriate permit application fees, the application shall be processed by the Agency.

47.—(1) Every Permit shall be subject to all the provisions of these Regulations and all other rules, regulations, user charges and fees, which are in effect or which may be made by the Agency.

(2) The following terms may be imposed by the Agency in the issuance of the Industrial/Commercial Discharge Permit :

(*a*) a limitation upon the quality of wastewater, volume of wastes, and the rate of flow discharged from the facility ;

(b) notification shall include the hazardous wastes constituents, their numbers, the total volume, type of discharge (batch or continuous), and rate of flow of the discharge ;

(c) all notifications must take place within 60 days of the effective date of this Regulation for existing and any new facility that commences operation after the effective date of this Regulation ; and

(d) in the case of any notification made pursuant to paragragh (b) of this sub-regulation, the Permit holder shall furnish the Agency with the facility's program to reduce the volume and toxicity of hazardous waste generated.

(3) The Permit holder shall submit plans and specifications for any of the pollution abatement equipment required to be installed and maintained to the Agency for approval.

(4) The Permit holder shall install and maintain, at the Permit holder's expense, the following :

(a) equipment for intermittent or continuous measurement of flow, radiation, or other wastes discharged ;

(b) retention tanks or other equipment "for reducing the maximum rates of discharge";

(c) pre-treatment and flow control equipment;

(d) control sampling manhole(s) where applicable ;

(e) grease traps for removal of oil and grease ;

(f) oil/water separators ; and

(g) air pollution control equipment.

(5) The Permit holder shall maintain appropriate records of all measurements of flow of industrial/commercial wastes, or other wastes specified by the Agency.

(6) The permit holder shall be responsible for all materials leaving their site for further processing/reuse in industry and shall ensure and demonstrate at all times that any facility that undertakes further processes wherever they maybe located globally are adequately licensed where appropriate and operate to internationally acceptable standards.

(7) The Agency shall put in place any other terms and conditions, as the need may arise, to fulfil the intents and provisions of these Regulations.

Permit Modifications.

**48.**—(1) A Permit holder proposing to make any change in its discharge volume or quality, shall apply for a permit modification at least ninety (90) days before making any changes subject to approval.

(2) The terms and conditions of an Industrial/Commercial Discharge, EEE import, Sludge disposal and installation Permit may be subject to modifications and changes by the Agency during the validity period of the permit.

(3) The Permit holder may be informed of any proposed changes in the permit at least thirty (30) days prior to the effective date of changes and shall be granted thirty (30) days to submit written comments to the Agency on any changes in the permit.

49. A permit can be revoked or terminated in the public interest.

**50.** A permit does not convey any proprietary rights of any sort, or any exclusive privilege.

**51.**—(1) The Permit holder shall furnish the Agency, within a reasonable time, with any information which the Agency may request to determine whether cause exists for modifying, revoking and re-issuing, or terminating the permit or to determine compliance with the permit.

(2) The Permit holder shall also furnish the Agency, with copies of records required to be kept in respect of the permit.

Permit Revocation

Property Rights.

Duty to Provide Information.

## PART V INDUSTRIAL EFFLUENT MONITORING AND REPORTING

Reporting Requirements. 52.—(1) A Permit holder, shall subject to categorical standards, comply with reporting requirements under the Agency's Permit including (but not limited to) Incidence Report and Monthly Effluent Data Sheet by submitting these documents to the Agency's Field Offices.

(2) The Permit holder shall submit to the Agency quarterly, a description of the nature, concentration and flow of the pollutants in the Monthly Effluent Data Sheet required to be reported.

(3) The report shall be based on sampling analysis performed in the period covered by the report. All reports shall be in compliance with the format as in Schedule XV to these Regulations.

(4) The Permit holder shall report all sample results for parameters listed on the Effluent Limitations and Monitoring Requirement, on the Industrial/ Commercial Discharge Monitoring Report forms as in Schedule XV to these Regulations.

(5) The Permit holder shall install monitoring equipment to facilitate accurate observation, sampling and measurement of the quality of waste discharges as required by the permit. The equipment shall be in working order and accessible to all authorized officials at all times. A permit holder who discharges effluents shall have in place—

(a) Flow meters

(b) Point Inspector Chambers

(c) Recording Apparatus

(d) Sampling Test Points/Points of Inspection

(6) The Permit holder discharging or proposing to discharge effluent to a general sewer or treatment plant shall maintain the following :

(a) records of production,

(b) water consumption and discharge flow records,

(c) complete monitoring records as specified in these Regulations

(d) process monitoring records,

(e) incident reports,

(f) waste handling records ; and

(g) any other records necessary to demonstrate compliance with these Regulations.

(7) The Permit holder shall be required to report to the Agency if the Permit holder :

(a) Commits a serious violation in any month;

(c) exceeds an effluent limitation for the same pollutant at the same discharge point source by any amount for four out of six consecutive months; and

(*d*) Discharges pollutants to the Environment, including any sludge loadings.

**53.**—(1) The Permit holder shall sign the report referred to in sub regulation (7) of Regulation 52 and attach a copy of the Certificate of analysis from the Agency's accredited laboratory.

(2) Each report must be signed by the appropriate officer.

(3) The report shall include the following certification statement :

"I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. The information herein submitted is, to the best of my knowledge and belief, true, accurate, and complete."

54. Monitoring records shall be made available to the Agency, and shall be retained for a minimum of ten (10) years and throughout the course of any pertinent litigation thereafter.

**55.** Public access to records shall be governed by the NESREA Act. Effluent constituents and characteristics, however, shall not be recognized as confidential information.

#### PART VI-ENFORCEMENT

**56.**—(1) An enforcement notice shall be served if the Agency is of the opinion that an operator has contravened, is contravening or is likely to contravene any condition of a permit.

(2) An enforcement notice shall :

(*a*) specify the matters constituting the contravention or the matters making it likely that the contravention will arise, as the case may be ;

(b) specify the steps that must be taken to remedy the contravention or to remedy the matters making it likely that the contravention will arise, as the case may be ; and

(c) specify the period within which those steps must be taken.

Authorized Signatory.

Monitoring. Records.

Confidential Information and Public Access to Records.

Enforcement. Notices. (3) The provisions of sub-regulation (2) (a) of this regulation shall apply whether or not the particular manner of operating the facility in question, is regulated by or contravenes a condition of the permit.

(4) An officer of the Agency may, in the course of his duty under these Regulations, at any reasonable time :

(a) enter and search any premises or facility to take samples or specimen for analysis, and measurements in length and/or of level of standards to which these Regulations relate ; and

(b) seize and detain for such time as may be necessary for the purpose of these Regulations any article by means of or in relation to which he reasonably believes any provision of these Regulations has been contravened.

**57.** Every body corporate or organisation shall be given equal treatment without preference as far as inspection and enforcement of relevant laws are concerned.

58. An Enforcement notice shall be delivered by hand, registered post or courier, newspaper publication or pasting at the address of the owner or occupant of the premises.

**59.** Where a person fails to comply with enforcement notice within the specified period as contained under sub-regulation (2) of regulation 56 of these Regulations, a second notice shall be served.

**60.**—(1) Where a person fails to comply with the second enforcement notice within the specified period as contained therein, a suspension notice shall be served or any other punitive action as may be necessary.

(2) Where a suspension notice is served pursuant to these Regulations the permit shall, on the service of such notice cease to have effect as stated in the notice.

(3) The Agency may withdraw a suspension notice after verification of compliance.

(4) Notwithstanding the provisions of these Regulations, the Agency shall have the power to enter and seal any facility contravening any of the provision of these Regulations.

Offences.

#### PART VII—OFFENCES

**61.**—(1) (a) It shall be an offence for a person to import end-of-life, unusable or unserviceable Electrical Electronic Equipment into the country;

Enforcement notice Reminder.

Equity.

Mode of

delivery.

Suspension of Permit.

(c) it shall be an offence for a person to import Cathode Ray Tube into the country.

(2) It shall be an offence for a person to manufacture, import, assemble, or distribute Electrical Electronic Equipment or operate Electrical Electronic Equipment facility without providing e-waste collection centre for take-back of the e-waste in Nigeria.

(3) It shall be an offence if a person, body corporate or organization :

(*a*) discards, throws, drops e-waste anywhere except in designated authorized collection centre or point ;

(b) burns e-waste in the Nigerian environment;

(c) disposes e-waste along side domestic and or municipal waste ;

(*d*) disposes e-waste at dump site, land-fill site, water body, or any other place except at the designated recycling plant ;

(e) breaks Cathode Ray Tubes (CRTs), improperly;

(*f*) releases Chlorofluorocarbons (CFCs) from fridges and other cooling system in an environmentally unsound manner;

(g) leaches precious metals with acids and other hazardous waste from Printed Wire Boards (PWBs);

(h) transports e-waste to non-designated recycling plant;

(i) stores e-waste longer than one year onsite ;

(*j*) fails to supply information as required for approval to operate e-waste facility;

(k) fails to maintain e-waste facility in a sanitary manner;

(l) fails to comply with the decommissioning conditions of e-waste facility as may be prescribed by the Agency;

(*m*) fails to submit to the Agency within a specified period, information/ data about materials received at its facility; and

(*n*) fails to submit an Environmental Audit Report as required by these Regulations.

**62.** It is an offence if a person, body corporate or organisation fails to comply :

Contravention of permit condition.

(a) with any of the conditions of the permit ;

(*b*) with the requirements of an enforcement notice or closure notice under these Regulations ; and.

(c) with any requirement imposed by a notice served by the Agency without reasonable excuse.

False statement.

**63.**—(1) It shall be an offence to make a statement which is known to be false or misleading particularly, where the statement is made :

(*a*) in purported compliance with a requirement to furnish any information pursuant to the provisions of these Regulations ;

(b) for the purpose of obtaining a permit for the body corporate/ organisation for variation, transfer or surrender of a permit;

(c) to intentionally make a false entry in any record pertaining to the permit ; and

(d) with intent to deceive, to forge or use a document issued or authorized to be issued under any condition of a permit

(2) It shall be an offence to make a statement or have in possession a document that is likely to mislead or deceive the Agency.

Failure to comply with abatement measures. **64.**—(1) It shall be an offence if a person, body corporate or organisation fails to :

(a) take reasonable measures to remove or otherwise treat and dispose of any effluent to minimize adverse effects ;

(b) take measures required by the Agency after unauthorized release of effluent;

(c) remediate the environment to the standard prescribed by the Agency;

(d) furnish all information to the inspector;

(e) remove equipment containing materials causing release of pollutants into the environment from place when requested by inspector;

(f) produce document when requested by the inspector ;

(g) comply with the guidelines with respect to the handling, storing and transporting of any effluent ; and

(*h*) Ensure the use of Personal Protective Equipment (PPE) while handling, storing, treating, or disposing of wastes

(2) It shall also be an offence if a body corporate or organisation :

(*a*) handles effluent in a manner which causes adverse effect to human health and the environment ;

(b) knowingly obstructs the inspectors from performing their duties ;

(c) dismisses, suspends or sanctions employees who report any contravention of the Act ;

(d) imposes penalty on any employee who reports cases of contravention of these Regulations to the Agency;

(e) transports, any effluent and sludge which is not covered by a manifest;

(f) transports effluent and sludge which are not completely enclosed, covered and secured ; and

(g) transports hazardous effluent and sludge in bulk without prior authorization from the Agency.

65. It shall be an offence if a person fails to :

(a) maintain records of all discharges; or

(b) file quarterly and annual reports of all discharges.

66. It shall be an offence for a person to :

(a) release effluent and sludge into the environment beyond the permissible level;

(b) fail to report release of effluent and sludge into the environment in excess of permissible level as contained in these Regulations;

(c) fail to take reasonable measures to prevent, reduce or remedy the adverse effect of effluent, sludge and emissions released into the environment.

#### PART VIII-PENALTY

67.—(1) Any person who violates the provisions of regulation 61 subregulation (1) (a) of these Regulations commits an offence and shall on conviction be liable to a fine not exceeding Five hundred Thousand Natura (N500,000:00), or to imprisonment for a term not exceeding two years or to both such term and imprisonment.

(2) Any person who violates the provisions of regulation 61(1)(b) to Regulation 66 of these Regulations commits an offence and shall on conviction, be liable to a fine not exceeding N200,000:00 or to imprisonment for a term not exceeding six months or to both such fine and imprisonment and an additional fine of N5,000:00 for every day the offence subsists.

(3) Where an offence under the provisions of these Regulations is committed by a body corporate, it shall on conviction, be liable to a fine not exceeding N1,000,000:00 and an additional fine of N50,000 for every day the offence subsists.

Failure to report.

Discharge of effluent beyond permissible level.

Penalty.

#### PART IX-MISCELLANEOUS

Recognition for Environmental leadership. **68.** Any body corporate or organisation that demonstrates environmental leadership, adopts environmentally responsible practices, demonstrates commitment to environmental quality and maintain exemplary environmental compliance records shall be recognized and encouraged by the Agency.

Interpretation.

69. In these Regulations, unless the context otherwise requires :

"Act" means the National Environmental Standards and Regulations Enforcement Agency (Establishment) Act 2007;

"Agency" means the National Environmental Standards and Regulations Enforcement Agency (NESREA);

"Air Emission" means any emission or entrainment process emanating from a point, non-point or mobile source resulting in air pollution;

"Air pollution" means any change in composition of the air caused by smoke, soot, dust (including Fly-ash), cinders, solid particle of any kind, gases, fumes, aerosols and odorous substances ;

"Ambient Air" means air occurring at a particular time and place out of structure ;

"Ancillary Equipment" means pieces of equipment including batteries, memory devices, chargers used with EEE listed in these Regulations;

"Appropriate authority" means, for the purposes of any provision of these Regulations relating to the exercise of the functions of the appropriate authority in Nigeria, NESREA and other relevant Environment Agency;

"Assembler" means a person or group of persons who bring, fix together separate parts of Electrical Electronic Equipment;

"Authorised treatment facility" means any facility operated by an establishment or undertaking carrying out treatment and which is licensed or otherwise permitted under or by virtue of any legislation made in Nigeria, as stated in the regulations;

"Best Available Technology (BAT)" means an emission limitation based on the maximum degree of emission reduction which (consisting energy, environmental and economic impact and other costs) is achievable through application of production processes and available methods, systems, and techniques;

"Body corporate" means an artificial person with perpetual succession and common seal and may sue and be sued in its corporate name;

"Cathode Ray Tube (CRT)" means a vacuum tube containing an electron gun and a fluorescent screen, with internal or external means to accelerate and deflect the electron beam, used to create images in the form of light emitted from the fluorescent screen. The image may represent electrical waveforms, pictures or radar targets ; "*Collection centre/point*" means a centre or point where e-wastes are collected and stored temporarily for the purpose of recycling;

"Comparative model" means equipment that are modern ; "Cooling appliances containing refrigerants" means—

- (a) large cooling appliances;
- (b) refrigerators;
- (c) freezers ; and

(*d*) other large appliances for refrigeration, conservation and storage of food, that fall within category 1 of Schedule 1;

"Dangerous substance or preparation" means any substance or preparation which has to be considered dangerous by laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances;

"Designated collection facility" means any establishment or undertaking or carrying out collection operations that is approved by the Minister of Environment;

"Designated Officer" means a person who has been appointed by the Agency to be responsible for processing applications with respect to activities designated under these Regulations, and includes an acting officer;

"Development Control" means the arm of the government that is responsible for development activities of a state/area;

"Director-General/Chief Executive Officer (DG/CEO)" means the Director General of the National Environmental Standards and Regulations Enforcement Agency (NESREA);

"*Distributor*" means any person who provides electrical or electronic equipment on a commercial basis to the party who is going to use it ;

"Donations" means something that is given to a person or an organization in order to help them;

"*Duty of care*" is a requirement that a person acts towards the environment with watchfulness, attention, caution and prudence that a reasonable person in the circumstances would do;

*"Effluent"* means waste water treated or untreated : that flows out of a treatment plant, sewer, or industrial outfall resulting from the commercial or industrial use of water, generally refers to wastes discharged into surface waters ;

#### "Electrical Electronic Equipment (EEE)" means :

(a) Equipment which is dependent on electric currents/voltage or electromagnetic fields in order to function properly and equipment for the generation, transfer and measurement of such currents and fields falling under the categories set out in Schedule 2 to these Regulations and designed for use with a voltage rating not exceeding 1,000 volts for alternating current and 1,500 volts for direct current ;

(b) Equipment for the generation, transfer, distribution and measurement of these currents and fields, including the components necessary for the cooling, heating, protection, etc., of the electrical or electronic components;

*"Electrical Electronic Sector"* means organisation or body corporate involved in :

(a) manufacturing, assembling, processing or recycling any equipment contained in the categories of EEE listed in these Regulations ; and

(b) operations in Telecommunication, broadcasting, power (distribution, transmission and generation) facilities;

"*EMF Electromagnetic Fields*" mean invisible lines of force emitted by and surrounding any electrical device {e.g. Power Lines and Electrical Equipment;

"End-of-life" means EEE that have come to the end of their usefulness;

"Enforcement" means actions to obtain compliance with environmental laws, rules, regulations or agreements and/or obtain penalties or criminal sanctions for violations;

"Enforcement Officer" means :

(a) an officer of NESREA who is authorised in writing by NESREA to act as an enforcement officer for the purposes of this Part, and

(b) a person appointed by the Minister of Environment who is authorised in writing by the Minister of Environment to act as an enforcement officer for the purposes of this Part;

"*Environment*" means the sum of all external conditions affecting the life, development and survival of an organism;

"Environment Assessment Report" means a report prepared for an organisation or body corporate which identifies potential or existing environmental contamination liabilities;

"Environmental Audit (EA)" means :

(a) An independent verification of current status of a party's compliance with applicable legislative requirement.

(*b*) An independent evaluation of a party's environmental compliance, policies, practices and control ;

*"EIA"* (Environmental Impact Assessment;) means the process of identifying, predicting, evaluating and mitigating the biophysical, social and other relevant effects of development proposals prior to major decisions being taken and commitments made ;

"Environmental Impact Statement (EIS)" means a document required of development Agencies by NESREA for major projects or legislative proposals significantly affecting the environment. A tool for decision making, it describes the positive and negative effects of the undertaking and lists alternative actions;

*"Environmental Management Plan"* means the process that an organization will follow to maximize its compliance and minimize harm to the environment. This plan also helps an organization map its progress towards achieving continual improvements;

"Environmentally Sound Manner (ESM)" means best management practices for electronic recyclers that can be used in conjunction with recycling Industry operating standards to ensure compliance with all applicable regulations and ensure environmental and worker protection;

"*E-waste*" means Waste Electrical Electronic Equipment (WEEE) including old, end-of-life (eol) or discarded electrical/electronic appliances using electricity;

*"Extension"* means an increase in size, volume or other physical dimensions of an activity such that the increase may cause an adverse effect if not properly mitigated ;

*"EEE facility"* means facilities involved with either manufacturing, processing, installing, deploying or recycling any of the following :

(a) Electrical/electronics;

(b) Refrigerators and air-conditioning appliances;

(c) Electric bulbs, lamps, accessories and fittings;

(d) Electrical power control and distribution equipment;

(e) Electrical Wire and Cable ; and

(f) Telecommunication equipment and base station.

"*Facility*" means any Electrical, Electronics assembly, installation, manufacturing, e-waste collection centre, e-waste treatment plant and processing outfit;

"Grey water" means waste water resulting from the use of water for domestic purposes, but does not include human excreta;

"Green technologies" are EEE products without hazardous chemicals as listed in schedule VII and so are prescribed environment-friendly; "Hazardous wastes" means substances/matter/things which even in low concentrations are injurious/harmful/dangerous to animals, plants, human health and the environment. Hazardous wastes may take the form of solids, liquids or sludge. "ICNIRP" International Commission for Non ionization Radiation Protection ;

"*Importer*" means a person or body corporate who, in the ordinary course of conduct of a trade, occupation or profession, imports (bring into the country) EEE;

"*Influent water*" means either processed waste water or raw water from a river, stream, spring or canal, or water abstracted from underground and used by a facility;

*"Inspection Officer/Inspector"* means a provincial officer who has the legal authority to enter facility(ies) to conduct an inspection under environmental legislation (Acts), guidelines and policies ;

"Large Scale Business" means any facility that has more than fifty employees;

*"Life span"* means the period during which an equipment is functional (as between manufacture and end-of-life) or the average time the equipment manufactured at a time is expected to function ;

"Medium Scale Business" means any facility that has from ten to fifty employees;

"*Minister*" means the Minister of Environment or the appropriate government structure operating at that time ;

"Modification" means a change in any activity that may cause an adverse effect if not properly mitigated and includes, but not limited to, the expansion of the same process, addition of product lines and replacement of equipment with different technology other than that presently in use;

"NCC" means Nigerian Communications Commission;

"Original Equipment Manufacturers (OEM)" means manufacturers products or components that are purchased by a company and retailed under that purchasing company's brand name; or producer of the finished product, last manufacturer in the supply chain before the end-user; or companies that design and build products bearing their name;

"*Other facility wastewater*" means effluent originating from the washing and general maintenance of a facility;

"*Permit*" means an official document, authorization, license, or equivalent control document issued by the Agency to implement the requirements of these regulations to discharge effluent especially for a limited period of time;

*"Permit holder"* means an individual/group of individual(s)/ organization(s)/facility(ies) that have been empowered by the permit to discharge effluent ; *"Person"* means a natural and juristic personality (including facility); *"Producer"* manufactures in or outside EE equipment for the Nigerian market;

"Radiation" means energy propagated in space ;

*"Radio frequency"* means electromagnetic waves of frequencies between 9 kilohertz and 3000 gigahertz, propagated in space without artificial guide;

"Radio and Microwaves" means waves emitted by transmitting antennae;

"Right-of-way, way leave or easements" mean access ways created for facility, transmission or location;

"5Rs" means Reduce, Repair, Reuse, Recycle and Recover ;

"Recovery" means any operation(s) leading to the creation of value of material;

"*Recycling*" means the reprocessing in a production process of the waste materials for the original purpose or for other purposes, but excluding energy recovery which means the use of combustible waste as a means of generating energy through direct incineration with or without other waste but with recovery of the heat, and "recycled" and "recycling operation" shall be construed accordingly;

"*Reuse*" means any operation by which e-waste/WEEE or components thereof are used for the same purpose for which they were conceived, including the continued use of the equipment or components thereof which are returned to collection points, distributors, recyclers or manufacturers, and "reused" shall be construed accordingly;

"Scavenger" means a person who searches and picks waste that can be useful for recycling purposes by people that will convert them to other useful forms;

*"Sludge"* means liquid or solid sediments and other residue from a municipal sewage collection and treatment system and liquid or solid and other septic from septic or holding tank pumping from commercial, industrial or residual establishments;

"Small scale business" means any facility that has less than ten employees;

"Spot sampling" means sample of liquid or sediments obtained at a specific depth inside a tank using a bottle. Spot samples are analyzed to determine the gravity of the oil, base sediment and water of the fluid in the tank ;

"Standards" means a consensus document with limits :

*"Telephone devices"* means any terminal device capable of being used for transmitting or receiving any communications over a network designed for the transmission of voice frequency communication ;

"Treatment" means any activity after the EEEW has been handed over to a facility for depollution, disassembly, sh edding, recovery or preparation for disposal and any other operation carried out for the recovery or disposal or both of the EEEW, and "treatment";

"Used EEE" means secondhand EEE that are functional and meant for reuse :

"Water bodies" means underground water, ground water, river, stream, spring, canal, reservoir, well, lake, lagoon, ocean etc.;

"Water efficient device" means any device that minimizes the use of water in the production process ; "Wastewater system" :

(a) means a sewer, conduit, pump, engine or other appliance used or intended to be used for the reception, conveyance, removal, treatment and disposal of effluent ; and

(b) does not include house sewers.

"Watercourse" means any natural or artificial channel, pipe or conduit, excluding the sewerage system, carrying, or that may carry, and discharging water directly or indirectly into a water body ;

"Writing" includes text that is :

(a) transmitted by electronic means ;

(b) received in legible form ; and

(c) capable of being used for subsequent reference.

""Year" means a calendar year commencing on 1st January.

SCHEDULE I

#### Regulation 2 (3)

CATEGORIES OF EEE COVERED BY THESE REGULATIONS

(1) Large household appliances (White goods)-

(a) large cooling appliances;

(b) refrigerators :

(c) freezers ;

(d) other large appliances used for refrigeration, conservation and storage of food ;

(e) washing machines :

(f) water Heaters ;

(g) clothes dryers ;

(h) dish washing machines ;

(i) electric Cooking Utensils ;

(j) electric stoves ;

(k) electric hot plates ;

(l) microwave ovens ;

(m) other large appliances used for cooking and other processing of food ;

(*n*) electric heating appliances ;

(o) electric radiators ;

(*p*) other large appliances for heating rooms, beds, seating furniture ;

(q) electric fans ;

(r) air conditioner appliances ; and

(s) other fanning, exhaust ventilation and conditioning equipment.

(2) Small household appliances (White goods):

(a) vacuum cleaners ;

(b) carpet sweepers ;

(c) other appliances for cleaning ;

(d) appliances used for sewing, knitting, weaving and other processing for textiles :

. (e) irons and other appliances for ironing, mangling and other care of clothing;

(f) toasters ;

(g) fryers ;

(h) grinders, coffee machines and equipment for opening or sealing containers or packages ;

(i) electric knives ;

(j) appliances for hair-cutting, hair drying, tooth brushing, shaving, massage and other body care appliances;

indicating or registering time; (l) weighing Scales;

(3) ICT and telecommunications equipment (C4-1/ goods):

(a) centralised data processing :

(b) mainframes;

(c) minicomputers ;

(d) personal computers ;

(e) lartop computers ;

(f) totebook computers ;

(g) notepad computers ;

(h) printers ;

(i) copying equipment;

(j) electrical and electronic typewriters ;

(k) pocket and desk calculators ;

(1) other products and equipment for the collection, storage, processing,

presentation or communication of information by electronic means;

(m) user terminals and systems;

(*n*) facsimile :

(o) telex;

(*p*) telephones ;

(q) pay telephones ;

(r) cordless telephones ;

(s) cellular telephones ;

(t) answering systems ; and

(u) other products or equipment of transmitting sound, images or other information by telecommunications.

(4) Entertainment and Consumer equipment (Brown Goods) :

(a) radio sets ;

(b) television sets ;

(c) video cameras ;

(d) video recorders ;

(e) hi-fi recorders;

(f) audio amplifiers;

(g) musical instruments; and

(h) other products or equipment for the purpose of recording or reproducing sound or images, including signals or other technologies for the distribution of sound and image than by telecommunications

Therefore before you import such goods or commodities into Nigeria please note that :

(*a*) only functional UEEE that meet the requirements of the guidance contained in this document and relevant NESREA Regulations can be legally imported into Nigeria; and

(b) your shipment may be classified as "Waste" and therefore treated as an illegal waste shipment by NESREA.

1.4. This guidance document highlights some of the 'dos' and 'don'ts' of shipment of UEEE into Nigeria. It is intended to help importers including private persons, companies, organizations and shipping companies to differentiate between UEEE and WEEE.

2.0. GUIDING PRINCIPLES

This guide is based on the following guiding principles :

(a) the Harmful Waste (Special Criminal Provisions, ETC) Act CAP H1 LFN 2004 is still in force in Nigeria ;

(b) the exporting countries are expected to enforce their national laws and relevant regional and international conventions on trans-boundary movement of hazardous waste;

(c) the Nigerian government allows the importation of new EEE and functional UEEE ;

(d) Nigeria bans the importation of WEEE and near-end-of-life electrical/ electronic equipment;

(e) every importer of UEEE should register with NESREA;

(f) any WEEE imported into Nigeria shall be sent back to the Port of origin;

(g) any vessel used to import UEEE mixed with WEEE, shall be forfeited to the Nigerian Government;

(*h*) administrative punitive fine shall be imposed on the carrier of WEEE or UEEE mixed with WEEE ;

(*i*) All UEEE imported into Nigeria shall comply with the following provisions :

(i) the item(s) shall be of comparative models of equipment in use ;

(*ii*) it shall be fit for the purpose it was originally designed for ;

(iii) it shall be fully functional as originally intended;

(*iv*) the outward/external appearance of the item shall not show any waste characteristics ;

(v) it shall not be scrap; and

(vi) the item(s) shall be properly packaged for protection during transport, loading and unloading.

#### Best Practices

(a) develop a data base for all effluent generated ;

(b) every industry shall install :

(i) anti-pollution equipment for the detoxification/treatment of effluent and sludge;

(*ii*) efficient Effluent Treatment Plant (ETP) based on the Best Practicable Technology (BPT) and Best Environmental Practices ; and

(iii) containment equipment for spills in case of accidental discharge.

(c) everybody corporate/organisation shall adopt in-plant waste and energy reduction and pollution prevention strategies;

(d) an unusual or accidental discharge of waste from a facility shall be reported to the nearest office of the Agency within 24 hours of the discharge;

(e) every new EEE facility shall have a buffer zone between it and the nearest human settlement in accordance with the Planning Permit.

(f) there shall be appropriate bund walls around tank farms for containment in case of accidental discharges;

(g) provide adequate protection (e.g. Shield) for ionizing radiations emanating from manufacturing processes ; and

(*h*) facilities in Telecommunication industry and power sector shall adhere to the ICNIRP guidelines in tables 1, 2 and 3 contained in Schedule VI.

#### SCHEDULE VI

Regulation 9

Regulation 8 (1)

## Best Practices in Facilities using Electromagnetic Fields

In addition to the National Environmentai (Standards for Telecommunications and Broadcast facilities) Regulations 2011, all facilities/ body Corporate/organizations/individuals whose operations involve the use of Electromagnetic fields (EMF) shall consider the following :

(i) aesthetics, environmental and public sensibilities ;

(*ii*) nearness to kindergartens, schools and playgrounds, this may need special consideration;

(*iii*) local restrictions to avoid EMF interference especially in hospitals or any other area designated by an appropriate authority;

(*iv*) open communication and discussion between the operator, local council and the public during the planning stages for a new antenna to help create public understanding and greater acceptance of a new facility;

(v) a buffer zone shall be created around the Mast where appropriate shrubs are planted to reduce the visual impacts.

(5) Lighting equipment :

(*a*) luminaries for fluorescent lamps with the exception of luminaries in households;

(b) straight fluorescent lamps;

(c) compact fluorescent lamps;

(d) high intensity discharge lamps, including pressure sodium lamps and metal halide lamps;

(e) low pressure sodium lamps ; and

(f) other lighting or equipment for the purpose of spreading or controlling light with the exception of filament bulbs.

(6) Electrical and electronic tools (with the exception of large-scale stationary industrial tools):

(a) drills;

(b) saws ;

(c) sewing machines;

(*d*) equipment for turning, milling, sanding, grinding, sawing, cutting, shearing, drilling, making holes, punching, folding, bending or similar processing of wood, metal and other materials;

(e) tools for riveting, nailing or screwing or removing rivets, nails, screws or similar uses ;

(f) tools for welding, soldering or similar use;

(g) equipment for spraying, spreading, dispersing or other treatment of liquid or gaseous substances by other means ; and

(h) tools for mowing or other gardening activities.

(7) Toys, leisure and sports equipment :

(a) electric trains or car racing sets ;

(b) hand-held video game consoles;

(c) video games ;

(d) computers fo biking, diving, running and rowing;

(e) sports equipment with electric or electronic components ; and

(f) coin slot machines.

(8) Medical devices (with the exception of all implanted and infected products):

(a) radiotherapy equipment;

(b) cardiology equipment;

(c) dialysis equipment;

(d) pulmonary ventilators Nuclear medicine equipment;

(e) laboratory equipment for in-vitro diagnosis;

(f) analysers;

(g) fertilization tests equipment; and

(*h*) other appliances for detecting, preventing, monitoring, treating, alleviating illness, injury or disability.

(9) Monitoring and control instruments :

(a) smoke detector;

(b) heating regulators ;

(c) thermostats ; and

(*d*) measuring, weighing or adjusting appliances for household or laboratory equipment. Other monitoring and control instruments used in industrial installations (for example, in control panels).

(10) Automatic dispensers :

(a) automatic dispensers for hot drinks ;

(b) automatic dispensers for hot or cold bottles or cans ;

(c) automatic dispensers for solid products;

(d) automatic dispensers for money ; and

(e) all appliances which deliver automatically all kind of products.

#### SCHEDULE II

Regulation 3 (2)

#### REQUIREMENTS FOR IMPORTATION OF USED EEE

Guide for Importers of Used Electrical and Electronic Equipment into Nigeria

#### 1.0. BACKGROUND

1.1. Used electrical electronic equipment (UEEE) from developed countries have become highly sought-after commodities in Nigeria in recent years in an attempt to bridge the so called "digital divide" and make information communication technology (ICT) equipment easily available at affordable prices. This has however led to a massive flow of obsolete Waste Electrical and Electronic Equipment (WEEE), electronic waste, e-waste or end-of-life electrical/electronic to the country.

1.2. Most times imported UEEE is mixed with end-of-life (e-waste) or near-end-of-life electrical and electronic equipment. Some of these equipment contain hazardous substances, mainly heavy metals e.g. lead, mercury, cadmium and organics e.g. polychlorinated biphenyls and brominated flame retardants, that can have adverse consequences on the environment and human health. These equipment end up as waste and when improperly managed using crude methods such as open burning to recover copper metal, adds to the insult on the environment and public health.

1.3. Shipments of these items are being regulated by the National Environmental Standards and Regulations Enforcement Agency (NESREA).
(*j*) NESREA shall only give clearance after satisfactory inspection of every suspected consignment before such consignment is discharged at the port ; and

(k) all importers shall bear the cost of inspection, testing and environmentally sound management of every consignment as prescribed by NESREA or all importers of new and/or used EEE will pay an administrative cost to NESREA to promote Environmentally Sound Management of WEEE.

3.0. REQUIREMENTS FOR IMPORTATION OF UEEE INTO NIGERIA

3.1. All UEEE imported into Nigeria shall meet the following requirements-

(*a*) where the holder of the equipment or products indicates intention to ship or is shipping UEEE and not WEEE, the following documentation shall be provided to back up the claim to the Agency :

(*i*) a copy of the invoice and documentation relating to the sale and/ or transfer of ownership of the UEEE which states that the equipment is for direct re-use and fully functional ;

(*ii*) evidence of evaluation/testing, such as certificate of testing - proof of functional capability on every item in the container/truck ;

(*iii*) a declaration made by the holder who arranges the transport of the UEEE that none of the material or equipment within the consignment is waste ; and

(*iv*) evidence of sufficient packaging to protect it from damage during transportation, loading and unloading.

(*b*) prior to any transboundary movement of UEEE, the importer or the representative shall provide information to NESREA and Nigerian Customs Service proving compliance with this guidance. Failure to meet these guidelines indicates that the material is WEEE and a precautionary approach to Environmental protection shall be taken ;

(c) for practical reasons of control, every carrier (e.g. shipping container, lorry, truck) of UEEE shall be accompanied by :

(a) Cargo Movement Requirement (CMR) document ;

(b) proof of evaluation/testing and certificate containing testing information on each item;

(c) declaration of the liability by the importer ; and

(d) copy of permit to import.

The planning should define the organisation's environmental footprints and set goals. Goals and objectives should be focused on maximising their positive impacts on the environment. When evaluating, the following elements should be considered:

(*a*) impacts on the environment through its activities, products and services ;

(b) legal requirements associated with protecting the environment; and

(c) meaningful and focused environmental objectives and targets.

#### IMPLEMENTATION AND OPERATION

Implementation and operation should define the activities that the organisation will perform to meet its environmental objectives and targets. This section should identify activity each person is responsible for, ensure completion and set targets for each of the identified activities. In addition, this area should specify employee training, communication and outreach activities that are necessary to ensure successful implementation of the plan.

## CHECKING AND CORRECTIVE ACTION

The EMP should describe the process that will be followed to verify proper implementation and how problems will be corrected in a timely manner. Routine evaluation and continual improvement to the process is necessary to make sure that the plan successfully leads towards the completion of environmental objectives and targets.

## MANAGEMENT REVIEW AND COMMITMENT TO IMPROVEMENT

Routine management review and support is a necessary and meaningful tool for the organization. This should identify the routine management evaluations that will be conducted to ensure that the plan is appropriately implemented to meet its environmental objectives.

## SCHEDULE IV Regulation 5 (2) and (3), 6(2)

GUIDE TEMPLATE FOR EMERGENCY PROCEDURES IN EEE FACILITY

Contents

STEP 1-ESTABLISH A PLANNING TEAM

There must be persons responsible for developing the emergency management plan.

(1) Form the Team to include the local Community likely to be affected.

(2) Establish Authority.

(3) Issue a Mission Statement in English and local language.

(4) Establish a Schedule and Budget.

UEEE would normally be considered waste if :

(a) the product is not complete and some essential parts are missing ;

(b) functionality or safety is impaired ;

(c) the appearance is generally worn or damaged;

(d) the packaging is insufficient;

(e) the item has among its constituent part(s) anything that is required to be discarded including refrigerators or air conditioners containing Ozone Depleting Substances (ODS);

(f) it is destined for disposal or recycling instead of re-use; and

(g) it is old, outdated or destined to be cannibalized to gain spare parts.

SCHEDULE III Regulation 4 (1) (e)

GUIDELINE FOR PREPARING ENVIRONMENTAL MANAGEMENT PLAN (EMP)

An Environmental Management Plan (EMP) describes the process that an organization will follow to maximize its compliance and minimize harm to the environment. This plan also helps an organization map its progress toward achieving continual improvements.

Regardless of the organization's situation, all environmental plans must include the following elements :

(a) policy;

(b) planning;

(c) implementation and Operation;

(d) checking and Corrective Action ; and

(e) Management Review and Commitment.

#### POLICY

Policy statements are important to an organisation because they help anchor the organisation on a core set of beliefs. These environmental guiding principles will enable all members of an organisation to focus on the same objective. They provide an opportunity for outside interests to understand the operation of the organisation. The policy should be focused, concise and easy to read. The environmental policy should address the following :

(a) compliance with legal requirements and voluntary commitments ;

(b) minimising waste and preventing pollution;

(c) continual improvement in environmental performance, including areas not subject to regulations ; and

(d) sharing information on environmental performance with the community.

#### STEP 2—ANALYZE CAPABILITIES AND HAZARDS

This step entails gathering information about current capabilities and about possible hazards and emergencies, and then conducting a vulnerability analysis to determine the facility's capabilities for handling emergencies.

- (1) Where Do You Stand Right Now?
- (2) Meet with Outside Groups.
- (3) Identify Codes and Regulations.
- (4) Identify Critical Products, Services and Operations.
- (5) Identify Internal Resources and Capabilities.
- (6) Identify External Resources.
- (7) Do an Insurance Review.
- (8) Conduct a Vulnerability Analysis.
- (9) List Potential Emergencies.
- (10) Estimate Probability.
- (11) Assess the Potential Human Impact.
- (12) Assess the Potential Business Impact.
- (13) Assess the Potential Property Impact.
- (14) Assess Internal and External Resources.
- (15) Evaluate the capabilities and hazards.

## STEP 3—DEVELOP THE PLAN

Emergency planning must become part of the corporate culture. Look for opportunities to build awareness; to educate and train personnel; to test procedures; to involve all levels of management, all departments and the community in the planning process; and to make emergency management part of what personnel do on a day-to-day basis.

- (a) plan Components;
- (b) the Development Process.
- STEP 4—IMPLEMENT THE PLAN

Implementation means more than simply exercising the plan during an emergency. It means acting on recommendations made during the vulnerability analysis, integrating the plan into company operations, training employees and evaluating the plan.

- (a) integrate the Plan into Facility or Organisation's Operations;
- (b) conduct Training, Drills and Exercises ; and
- (c) activate the Plan as and when necessary.

### TABLE 1

## ICNIRP (1998) Guideline for Limiting Exposure to Time Varying Electric, Magnetic and Electromagnetic Fields Up to 300GHz Reference Levels for Public and Occupational Exposure (ICNIRP/ITU-T K.52)

Type of Exposure	Frequency Range	Electric field Strength (V/n)	Magnetic Field Strength	Equivalent Plane Wave Power Density Seq (w/m <sup>2</sup> )
Occupational Exposure	Up to 1 Hz		2×10 <sup>5</sup>	The second
	1-8 Hz	20 000	2×105/f <sup>2</sup>	1
	8-25 Hz	20 000	2×104/f	
	0.025-0.82 kHz	500/f	20/f	1.0
	0.82-65 kHz	610	24.4	1
	0.065-1 MHz	610	1.6/f	Superior .
	1-10 MHz	610/f	1.6/f	
	10-400 MHz	61	0.16	10
	400-2000 MHz	$3f^{\frac{1}{2}}$	$0.008f^{\frac{1}{2}}$	<i>f</i> /40
	2-300 GHz	137	0.36	50
General Public	- 1		$2 \times 10^{4}$	
1.44	1-8 Hz	10 000	$2 \times 104/f^2$	
	8-25 Hz	10 000	5 000/f	
	0.025-0.8 kHz	250/f	4/f	
	0.8-3 kHz	250/f	5	
	3-150 kHz	87	5	
	0.15-1 MHz	87	0.73/f	
	1-10 MHz	87/f <sup>1/2</sup>	0.73/f	
	10-400 MHz	28	0.073	2
	400-2000 MHz	1.375f <sup>1/2</sup>	$0.0037 f^{\frac{1}{2}}$	
of heatstand	2-300 GHz	61	0.16	10

## TABLE 2 BASIC LIMITS FOR PUBLIC AND OCCUPATIONAL EXPOSURE (ICNIRP)/ITU-T K.52

#### EXPLANATIONS

The exposure limits for the general public are five (5) times lower than for occupational workers. This is because such workers are normally persons who may have been trained to be aware of RF hazards and have been medically assessed to be fit for work in RF fields.

Type of Exposure	Frequency Range	Current density for head and trunk (mA/m2) (rms)	Whole body average SAR(W/kg)	Localized SAR (head and trunk (W/kg)	Localized SAR (limbs) (W/kg)
Occupa-	Up to 1 Hz	40	1		
tional	1-4 Hz	40/f	1.		
Exposure	4 Hz-1 kHz	10			
	1-100 kHz	<i>f</i> /100			
	100 kHz- 10 MHz	<i>f/</i> 100	0.4	10	20
	10 MHz- 10 GHz		0.4	.10	20
General	Up to 1 Hz	8			
Public	1-4 Hz	8/f			
	4 Hz-1 kHz	2			
	1-100 kHz	f/500			
	100 kHz- 10 MHz	f/500	0.08	2	4
	10 MHz- 10 GHz	1.	0.08	2	4

Note :

f is the frequency in Hertz.

Due to electrical inhomogeneity of the body, current densities should be averaged over a cross-section of 1 cm2 perpendicular to the current direction.

All SAR values are to be measured in a period of 6-minutes.

For a localized SAR averaging mass in any 10g of contiguous tissue, the maximum SAR obtained should be the value used for the estimation of exposure.

Voltage Range (Phase to Phase- Kilovolts)	Minimum Working and Clear hol stick Distance (Meters)
2.1 to 1.5	0.6
1.5 to 35	0.71
35.1 to 46	0.76
46.1 to 72.5	0.91
72.6 to 121	1.01
138 to 145	1.06
161 to 169	1.11
230 to 242	1.5
345 to 362	2.13 <sup>b</sup>
500 to 552	3.35 <sup>b</sup>
700 to 765	4.5 <sup>b</sup>

TABLE 3 ALTERNATING CURRENT MINIMUM WORKING DISTANCES FOR TRAINED EMPLOYEES<sup>A</sup>

<sup>a</sup> OSHA—Occupational\*Safety and Health Administration of the United States.

<sup>b</sup> *Note* : from 345-362kv, 500-552kv and 700-765kv. The minimum working distance and the minimum clear hot stick distance may be reduced provided that such distances are not less than the shortest distance between the energized part and a grounded surface.

## ORGANIZATIONAL SYSTEM AND THE FUNCTIONS OF POLLUTION CONTROL MANAGER(S)

(1) Each facility shall be mandated by the Agency to have an organizational system that will carry out Internal Environmental Auditing of the facility as well as liaise with NESREA and other Government Authorities. The Organizational system shall have Pollution Control Supervisor, Pollution Control Manager and Pollution Control Chief Manager which shall be elected/ appointed/outsourced to an accredited Consultant. These shall be certified by the Agency through a National examination/qualifying examination.



FUNCTIONS :

(a) manages the pollution control issues of the facility;

(b) assists the Manager and directs the Operators/Technicians ; and

(c) deals with technical operations of the pollution abatement equipment.

*Note* : C depends on the size of the facility ; for a large facility there shall be PCM for Air, Land and Water.

(2) SPECIFIC DUTIES OF THE POLLUTION CONTROL MANAGER (PCM)

The specific duties of the PCMs are :

(a) to ensure that the responsibilities are very clear for all the staff involved in pollution control;

(b) to ensure that daily pollution control practices are complied with; and (c) to maintain smooth and proper environmental and safety communications within the facility and the regulatory authorities as well as the host community.

(3) CONCRETE POLICIES CONCERNING INDUSTRIES' POLLUTION CONTROL

1. Management concerning pollution control at facilities :

(a) improvement and operation of effective environmental management system;

(b) communication with NESREA's headquarters;

(c) ability to know when a system is malfunctioning;

(d) documentation of the environmental management procedure and control of the records and documents; and

(e) co-operation with interested parties such as other related companies, regulations.

2. Addressing corporate-wide environmental measures :

(a) recognition of the business risk relative to the environmental management system;

(b) management including maintenance of competent human resources for pollution control;

(*c*) establishing a corporate-wide environmental management system including risk information feed-back system ;

(d) establishing a monitoring, assessment and self-improvement system; and

(e) establishing a contingency plan and its verification.

#### SCHEDULE VIII

#### Regulation 11 (1)

GUIDELINES FOR EXTENDED PRODUCER RESPONSIBILITY PROGRAMME

#### NEW EEE ONLY

(1) As part of the Strategic Sectoral Alliance Programme of the Agency, all private individuals, retailers, re-furbishers, distributors, producers, recyclers, manufacturers and importers of Electrical Electronics products shall partner with the Agency to establish an effective Extended Producer Responsibility Programme. The manufacturers and importers shall submit a proposal for an Extended Producer Responsibility Programme to the Agency for approval; such a proposal shall include elements for successful implementation of the scheme as follows :

(a) manufacturers and Importers shall establish a process for the collection, handling, transportation and final treatment of post-consumer Electrical Electronic products regardless of who is the original brand owner ;

(b) the post-consumer products shall include new and Used Electrical Electronic Products but not limited to branded products ;

(c) incorporate the principles of a pollution prevention hierarchy by moving progressively from disposal to reduce, repair, reuse, recycle and recover of post-consumer products;

(2) Submit on or before June 30 in each year to the Agency, an annual report on their extended products responsibility program during the previous fiscal year including, but not limited to, information in respect of :

(a) the total amount of consumer Electrical Electronic sold and postconsumer products collected;

(b) the total amount of post-consumer Electrical Electronic products processed or in storage ;

(c) the percentage of post-consumer Electrical Electronic products that were treated or contained, reused, recycled, recovered and repaired ;

(d) efforts taken through consumer Electrical Electronic products marketing strategies to reduce post-consumer products and packaging waste ;

(e) the types of processes used to repair, reuse, recycle or recover postconsumer EEE products, including but not limited to details of efforts to incorporate the priorities of pollution prevention, hierarchy by moving progressively from disposal to reduction, repair, reuse, recycling and recovery of post-consumer painted products ;

(f) the location of any long-term containment or final treatment and processing facilities for post-consumer producst;

(g) the process of internal accountability used to monitor environmental effectiveness ; and

(h) any other information requested by the Agency.

(3) Responsibilities of the producer. The producer shall be responsible for :

(*a*) collecting any e-waste generated during the manufacture of electrical and electronic equipment and channeling the same for recycling or disposal;

(b) ensuring that all electrical and electronic equipment are provided with a unique serial number or individual identification code for tracking the products in the e-waste management system ;

(c) collecting e-waste generated from the end-of-life of their products in line with the principle of Extended Producer Responsibility (EPR), and to ensure that such e-wastes are channeled to registered refurbisher or dismantler or recycler;

(*d*) setting up collection centers or take back system either individually or collectively for all electrical and electronic equipment at the end of their life;

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(e) financing, and organizing a system to meet the costs involved in the environmentally sound management of e-waste generated from the endof-life of its own products and historical waste available on the date from which these rules come into force. Such financing system shall be transparent. The producer may choose to establish such financial system either individually or by joining a collective scheme;

(f) providing contact details such as address, telephone numbers/helpline number and e-mail of dealers and authorized collection centers to consumer(s) or bulk consumer(s) so as to facilitate return of used electrical and electronic equipment.

(g) incorporating the principles of energy efficiency in all manufactured EEE;

(h) creating awareness through publications, advertisements, posters, or by any other means of communication and information booklets accompanying the equipment, with regard to the following :

(*i*) information on hazardous constituents in electrical and electronic equipment;

(*ii*) information on hazards of improper handling, accidental breakage, damage and/or improper recycling of EEE ;

(*iii*) instructions for handling the equipment after its use, along with the Do's and Don'ts ;

(*iv*) promoting acquisition of EEE products with energy efficiency measures ; and

(v) affixing the symbol given below on the products to prevent e-waste from being dropped in garbage bins containing waste destined for disposal.



(*i*) obtaining an authorization from the Agency in accordance with Schedule II;

(*j*) maintaining records of the e-waste handled. Such records should be available for scrutiny by the appropriate authority ; and

(*k*) filing annual returns to the Agency on or before the 30th day of June following the financial year to which that return relates.

(4) Responsibilities of distributors-

(a) every dealer shall be responsible to collect the e-waste by providing the consumer(s) a box, bin or a demarcated area to deposit e-waste ;

(b) every dealer shall make an application to the Agency for registration; as follows :

(i) the Agency shall register the dealer on a one time basis and the dealer would be considered as deemed registered if not objected to within a period of 30 days;

(*ii*) the registered dealer shall be required to submit details of e-waste collected to the Agency on yearly basis and registration would be liable for cancellation on failure to furnish these details to the Agency: Provided that the registration granted to the dealer shall not be cancelled unless he has been given a reasonable opportunity of hearing.

(c) every dealer shall ensure that the e-waste thus collected is safely transported back to the producer or to authorized collection centre as the case may be ;

(d) every dealer shall file annual returns to the Agency on or before the 30th day of June following the financial year to which that return relates; and

(e) every dealer shall maintain records of the e-waste handled and such records should be available for scrutiny by the appropriate authority.

(5) Responsibilities of refurbisher :

(*a*) every refurbisher shall collect e-waste generated during the process of refurbishing and channelize the waste to authorized collection center ;

(b) every refurbisher shall make an application to the Agency for grant of one time registration;

(c) the Agency shall register the refurbisher on a one time basis and the refurbisher would be considered as deemed registered if not objected to within a period of 30 days;

(d) the registered refurbisher shall be required to submit details of ewaste generated to the NESREA on yearly basis and registration would be liable for cancellation on failure to furnish these details to the Agency. Provided that the registration granted to the refurbisher shall not be cancelled unless he has been given a reasonable opportunity of hearing ; (e) every refurbisher shall ensure that the e-waste thus collected is safely transported back to authorized collection centre or registered recyclers as the case may be.

(f) every refurbisher shall file annual returns to the Agency on or before the 30th day of June following the financial year to which that return relates; and

(g) every refurbisher shall maintain records of the e-waste handled and such records should be available for scrutiny by the appropriate authority.

(6) Responsibilities of collection centers :

Any person(s) operating collection centre(s) individually or collectively shall:

(a) obtain an authorization in accordance with the procedures prescribed under Schedule XIV from the Agency as the case may be and provide details such as address, telephone numbers/helpline number, e-mail, etc. of such collection centre(s) to the general public ;

(b) ensure that the e-waste collected by them are stored in a secured manner till these are sent to producer(s) or refurbisher or registered dismantler(s) or recycler(s) as the case may be ;

(c) ensure safe transportation of the e-waste;

(d) ensure that no damage is caused to the environment during storage and transportation of e-waste ;

(e) file annual returns to the Agency on or before the 30th day of June following the financial year to which that returns relate ; and

(f) maintain records of the e-waste handled and such records should be available for scrutiny by the appropriate authority.

(7) Responsibilities of consumer or bulk consumer :

(*a*) consumers of electrical and electronic equipment shall ensure that e-waste are deposited with the dealer or authorized collection centers ;

(b) bulk consumers of electrical and electronic equipment shall ensure that e-waste are auctioned to or deposited with the dealer or authorized collection centers or refurbisher or registered dismantler or recyclers or avail the pick-up or take back services provided by the producers ; and

(c) bulk consumers shall file annual returns to the Agency on or before the 30th day of June following the financial year to which the returns relate.

(8) Responsibilities of dismantler-

Every dismantler shall :

(a) obtain registration from the Agency in accordance with the procedures prescribed under schedule II ;

(b) ensure that no damage is caused to the environment during storage and transportation of e-waste ;

(c) ensure that the dismantling processes do not have any adverse effect on the environment and human health ;

(d) ensure that the facility and dismantling processes are in accordance with the standards or guidelines published by the Agency from time to time ;

(e) ensure that dismantled e-waste are segregated and sent to the registered recycling facilities for recovery of materials;

(f) ensure that non-recyclable/non-recoverable components are sent to authorized treatment storage and disposal facilities;

(g) file a return to the Agency as the case may be, on or before 30th June following the financial year to which that return relates ; and

(*h*) not process any e-waste for recovery or refining of materials, unless he is registered with NESREA as the recycler for refining and recovery of materials.

(9) Responsibilities of recycler-

Every recycler shall :

(a) obtain registration from Agency in accordance with the procedures prescribed under schedule XIII ;

(b) ensure that the facility and recycling processes are in accordance with the standards laid down in the guidelines published by the NESREA from time to time ;

(c) make available all records to the Agency for inspection;

(d) ensure that residue generated thereof is disposed in a hazardous waste treatment storage disposal facility;

(e) file annual returns to the Agency as the case may be, on or before 30th June following the financial year to which that returns relate.

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SCH	EDU	LE	
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Regulation 12 (2) (b)

194	SLUDGE DISPOSAL	PERMISSIBLE LIMIT
	DRY SLUDGE (DS) GENERATION F	ROM WASTEWATER TREATMENT
S/N	Parameters	Sludge Production Kg DS/tonne
1.	Sludge (total)	200
-	Primary Treatment	en gun anagun nysen, e m
2.	Mixing-sedimentation	80
3.	Mixing-Chemical treatment+ sedimentation	150-200
4.	Mixing chemical treatment+ Flotation	150-200

## SCHEDULE X Regulations 12(2) (b), 15 (1), (2) (a) (b) (3), 16 (1) and (2), 17 (d), and 18 (3)

# EFFLUENTS LIMITATION FOR ELECTRONICS MANUFACTURING,

	D-llutonte	Units	Guideline value
/No.	Pollutants		6-9
	pH	mg/l	160
r + assista tresent	COD	mg/l	50
3.	RODs	mg/l	50
4.	Total suspended solids	mg/l	10
5.	Oil and grease	mg/l	2
6.	Total phosphorous	mg/l	5
7.	Fluoride	mg/l	10
8.	Ammonia Cyanide(total)	mg/l	-1
9.	5	mg/l	0.1
10. 11.	Cyanide(free) AOX(adsorbable organic bound halogens)	mg/l	0.5
12.	Arsenic	mg/l	0.1
12.	Chromium(hexavalent)	mg/l	0.1
13.	Chromium(total)	mg/l	0.5
14.	Cadmium	mg/l	0.1
15.	Copper	mg/l	0.5
10.	Lead	mg/l	0.1
17.	Mercury	mg/l	0.01
	Nickel	mg/l	0.5
19. 20.	Tin	mg/l	2
	Silver	mg/l	0.1
21.	Selenium	mg/l	1
22.	Zinc	mg/l	2
23.	Temperature increase	°C	Less than 3 <sup>a</sup>

<sup>a</sup> At the edge of scientifically established mixing zone which takes into account ambient water quality, receiving water use, potential receptors and assimilative capacity.

SCHEDULE XI	Regulations	19,	20	(1)	and	22	(1)
EMISSION LEVELS FOR ELEC	CTRONICS MANU	UFAC	TUR	ING	Peo R		(1)

ASSEMBLING ANI	PROCESSING
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S/No.	Pollutants	Units	Guidalina
1.	VOC(Volatile Organic Compound) <sup>a</sup>	mg/Nm <sup>3</sup>	Guideline value 20
2.	Organic HAP <sup>b</sup>	Ppmv	20
3.	Inorganic HAP <sup>b</sup>	Ppmv	20
4.	HCL(Hydrogen Chloride)	mg/Nm <sup>3</sup>	0.42
5.	HF(Hydrogen Fluoride)	mg/Nm <sup>3</sup>	10
5.	Phosphine	mg/Nm <sup>3</sup>	0.5
7.	Arsine and As Compounds	mg/Nm <sup>3</sup>	0.5
3.	Ammonia	mg/Nm <sup>3</sup>	30
).	Acetone	mg/Nm <sup>3</sup>	150

Notes :

( and )

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(a) applicable to surface cleaning processes ;

(b) industry-specific hazardous air pollutants (HAPs) include : antimony compounds, arsenic compounds, arsine, carbon tetrachloride, catechol, chlorine, chromium compounds, ethyl acrilate, ethylbenzene, ethylene glycol, hydrochloric acid, hydrofluoric acid, lead compounds, methanol, methyl isobutyl ketone, methylene chloride, nickel compounds, perchloroethylene, phosphine, phosphorous, toluene, 1,1,1- trichloroethane, trichloroethylene (phased-out), xylenes. Current industry practice is not to use ethylbenzene, toluene, xylene, methylene chloride, carbon tetrachloride, chromium compounds, perchloroethylene, 1,1,1- trichloroethane, or trichloroethylene ; (c) at 3 percent O2.

## SCHEDULE XII

### Regulations 25(1)

## NOISE STANDARDS (OSHA)

A : MAXIMUM PERMISSIBLE NOISE LEVELS (CONTINUOUS OR INTERMITTENT NOISE) FROM A FACTORY OR WORKSHOP

S/No.	Column 1	Column 2	Column 3		
	Leq dB (A)	Duration (Daily)	Duration (Weekly)		
1.	85	8 Hours	40 Hours		
2.	88	4 hours	20 hours		
3.	91	2 hours	10 hours		
4.	94	1 hour	5 hours		
5.	97	30 minutes	2.5 hours		
5.	100	15 minutes	1.25 hours		
7.	106 ·	7.5 minutes	37.5 minutes		
8.	109	1.875 minutes	9.375 minutes		

## B : TABLE OF NOISE DOSE, LEQ. AND TIME

TIME IN		LEQ									
HOUR	85	87	89	91	93	95	97	99	101		
0.50	6.25 %	9.91 %	15.70 %	24.88 %	39.43 %	62.50 %	99.06 %	156.99 %	248.82 %		
1.00	12.50 %	19.81 %	31.40 %	49.76 %	78.87 %	125.00 %	198.11 %	313.99 %	497.63 %		
1.50	18.75 %	29.72 %	47.10 %	74.65 %	118.30 %	187.50 %	297.17 %	470.98 %	746.45 %		
2.00	25.00 %	39.62 %	62.80 %	99.53 %	157.74 %	250.00 %	396.22 %	627.97 %	995.27 %		
2.50	31.25 %	49.53 %	78.50 %	124.41 %	197.17 %	312.50 %	495.28 %	784.96 %	1244.08 %		
3.00	37.50 %	59.43 %	94.20 %	149.29 %	236.61 %	375.00 %	594.33 %	941.96 %	1492.90 %		
3.50	43.75 %	69.34 %	109.90 %	174.17 %	276.04 %	437.50 %	693.39 %	1098.95 %	1741.72 %		
4.00	50.00 %	79.24 %	125.59 %	199.05 %	315.48 %	500.00 %	792.45 %	1255.94 %	1990.54 %		
4.50	56.25 %	89.15 %	141.29 %	223.94 %	354.91 %	562.50 %	891.50 %	1412.94 %	2239.35 %		
5.00	62.50 %	99.06 %	156.99 %	248.82 %	394.35 %	625.00 %	990.56 %	1569.93 %	2488 17 %		
5 50	68.75 %	108.96 %	172.69 %	273.70 %	433.78 %	687.50 %	1089.61 %	1726.92 %	2736.99 %		
6.00	75.00 %	118.87 %	188.39 %	298.58 %	473.22 %	750.00 %	1188.67 %	1883.91 %	2985.80 %		
6.50	81.25 %	128.77 %	204.09 %	323.46 %	512.65 %	812.50 %	1287.73 %	2040.91 %	3234.62 %		
7.00	87.50 %	138.68 %	219.79 %	348.34 %	552.09 %	875.00 %	1386.78 %	2197.90 %	3483.44 %		
7.50	93.75 %	148.58 %	235.49 %	373.23 %	591.52 %	937.50 %	1485.84 %	2354.89 %	3732.25 %		
8.00	100.00 %	158.49 %	251.19 %	398.11 %	630.96 %	1000.00 %	1584.89 %	2511.69 %	3981.07 %		

Dose = 100 x T/8 x 10(Leq - 85)10 % .....(i)

Leq. = 10log10[(Dose/100) x (8/T)] + 85dB(A).....(*ii*)

T = Individual Worker exposure time

Leq. = A weighted, sound level linearly energy average over T hours. Worker noise exposure in noise dose calculated by equation (i) shall not exceed 100%.

#### Note :

(*a*) exposure to impulsive or impact noise should not exceed 140 dB(C) peak sound pressure level ;

(b) noise and induced ground vibration of quarry blast measured at 500m from the blast </= 100dB(C), 8mm/s

#### SCHEDULE XIII Regulations 35(b) and 39 (1)

REQUIREMENT FOR APPROVAL OF AN EEE RECYCLING FACILITY

Information to be included in an application include :

(1) The name of the operator of the facility ;

(2) The registered office address and telephone number of the operator of the recycling plant or the importer where it is a body registered in Nigeria. ;

(3) Where the operator of the recycling plant or the importer is in partnership, the names in Nigeria of all the partners should be provided ;

(4) The address for service of notices if different from that referred to in paragraph 2;

(5) In the case of an application made by an operator of a recycling plant, the name and address of each recycling plant in respect of which it is applying for approval;

(6) Confirmation of whether or not the operator of the recycling plant or the importer has been convicted of an offence under these Regulations; and where a positive confirmation is given an explanation of how the contravention of these Regulations which resulted in the conviction occurred and what steps have been taken to ensure such a contravention will not occur in the future ;

(7) Certification of equipment by a relevant statutory body;

(8) Approval by state's development control Authority;

(9) A brief technical description of the process ;

(10) Environmental Impact Statement or Evaluation Report as the case maybe ; and

(11) Any other information that will help the Agency in fast-tracking the approval.

## Regulations 39 (2)

GUIDELINES FOR ESTABLISHMENT OF FACILITY (COLLECTION CENTER)

(1) Operators of e-waste collection centres shall include interested parties but not limited to manufacturers, importers and dealers.

(2) Storage conditions of the collection centre shall be such that :

(i) it is not directly exposed to sunlight or any source of heat;

(ii) e-waste are not exposed to rain, percolation, water or any liquid ;

(iii) the floor is tiled; and

(iv) ambient temperature is not exceeded.

(3) Operators of collection centres shall be accredited having satisfied the Agency's conditions of the following :

(i) appropriate premises (large one);

(ii) shelve;

(iii) fire extinguisher ;

(*iv*) lighting (natural or artificial);

( $\nu$ ) ventilation(natural or artificial);

(*vi*) provision for gang way;

(vii) proper arrangement; and

(viii) impermeable surface.

Form 1

SCHEDULE XV

MONTHLY DISCHARGE MONITORING REPORT (MDMR) [NESREA DISCHARGE MONITORING REPORT]

Regulation (53) (3) and (4)

PLEASE COMPLETE AND SUBMIT ONE COPY EACH MONTH THIS REPORT MUST BE POSTMARKED NOT LATER THAN THE 28TH DAY OF THE FOLLOWING MONTH.

Facility Name and Address :

Mail to :

National Environmental Standards and Regulations Enforcement Agency (NESREA),

Headquarters,

Abuja.

Sampling Point Location : .....

Month Year

Sampling Dates and Time : .....

TYPES OF SAMPLING						and the second second
Parameters		Weekly Results			Nesrea's Regulatory Limits	
PHYSICAL:	Units	1 <sup>ST</sup>	2 <sup>ND</sup>	3RD	4 <sup>TH</sup>	Average
Appearance						
Odour					1	
Temperature	°C					
Ph						
Conductivity	µs/cm					
Turbidity	NTU				1	
Dissolved Oxygen (DO)	mg/l					
Total Suspended Solids	mg/l					
Total Dissolved Solids	mg/l					
(TDS)					1	-
BOD	mg/l				1	
COD	mg/l					

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TYPES OF SAMPI	LING		- T	1.510				•
Parameters			10.92	Weekly Results				Nesrea's Regulatory Limits
INORGANIC :		UNITS	1 <sup>ST</sup>	2 <sup>ND</sup>	31	D	$4^{\text{TH}}$	Average
Chloride		mg/l	du fielnab	1000				CAR DOUGH SHIELS
Nitrate		mg/l		1				-
Sulphate		mg/l						has built the
Sulphite		mg/l						Starsfra
Cyanide		mg/l						and southers
Nitrites		mg/l					-	in the second second
Chromium (hexavalent)		mg/l						
Copper		mg/l						
Zinc		mg/l						
Lead		mg/l						
Cadmium		mg/l					1.10.5	age and the second second
Manganese		mg/l						
Silver		mg/l						
Mercury		mg/l						
Arsenic		mg/l						and the second
Organics :	E.							
Phenols		mg/l						and there
Oil and Grease		mg/l						
MICRO-BIOLOGIC	AL:							
Feacal Coli form		CFU			-		0.000	
			No	ise Me	ASUF	REME	ENTS	and a second
Locations			Noise I				EVEL	
			_					
oositistamis (immisilied		Signature with date of principle executive Officer or authorized agent;			I certify under penalty of law that this document and all attachments were prepared under my			
Signature of Certified Operator	Date (Month, Day, Year)		Date :			direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.		
			Signature :					

#### FORM 2

### NATIONAL ENVIRONMENTAL STANDARDS AND REGULATIONS ENFORCEMENT AGENCY (NESREA)

#### INCIDENT REPORT FORM

This report is to be completed when accidental discharge, occupational illness or incident occurs. If an employee is injured or develops gradually a job-related illness as a result of his/her employment at the facility. She must complete and submit the "Incident **Report**". If the employee is unable to complete the form, the supervisor must complete on his/her behalf.

Incident reporting ensures there is a record on file with the employer. in no way does this waive the employee's right to work's compensation benefits. If an injury occurs, first aid may be administered before any appropriate treatment.

1. FACILITY

Name and Address of Facility :----

No of Employees :---

Department where the discharge occurred :-----

Place of the accidental discharge :---

#### 2. DISCHARGE

Cause(s) of discharge ;

Did the discharge occur as a result of mechanical/technical/unskilled application? Please specify.

Was the discharged gaseous, liquid or solid? Please specify.

What was the nature of discharge, sludge, effluent or influent? Please specify.

Into which medium was it discharged to *i.e.* water body, land, or air?.Please specify.

- If water body, specify type of water; pond, stream, lake, river etc.
- If land;
  - Name and location (Geo-reference) of the land where discharge occurred.
- Ways of disposing of discharge; i.e burying, burning etc. Please specify.

How ?----

Who was/were the victim(s) ?-

#### SCHEDULE XVI

Regulations 8 (3)

CLASSIFICATION OF CHEMICALS ACCORDING TO HAZARD

Hazardous characteristics of chemicals can be identified as :

- (*i*) flammable solvents ;
- (ii) corrosive : (Acids/Alkalis) ;
- (iii) reactive (Bleaches/Oxidisers) ;
- (iv) toxic; and
- (v) environmentally bio-accumulative.

HAZARDOUS SOLVENTS IN EEE MANUFACTURING, PROCESSING, ASSEMBLY, RECYCLYING

Some of the hazardous waste solvents in EEE manufacturing, processing, assembling and recycling include :

- (i) spent deionised water ;
- (ii) spent solvents ;
- (iii) spent cleaning solutions;
- (iv) sludge from waste water treatment ;
- (v) spent epoxy material; and
- (vi) spent cyanide solutions among others.

Some of the Hazardous Substances in EEE

EEE contain hazardous substances such as :

(i) Americium

(ii) Mercury

(iii) Sulphur

(iv) PCBs

(v) Cadmium

(vi) Lead

(vii) Beryllium oxide

(viii) Polyvinyl chloride

(ix) Polychlorinated Biphenyls (PCBs)

(x) Toluene

(xi) 1,1,1 trichloroethane

(xii) Trichloroethylene

(xiii) Xylenes

(xiv) Polybrominated Biphenyls (PBBs)

(xv) Polychlorinated Biphenyls (PCBs)

(xvi) Polychlorinated Terphenyls (PCTs)

(xvii) Creosote

(xviii) Pentachlorophenol (PCP)

(xix) Copper arsenate (CCA)

(xx) Sulphur hexafluoride  $(SF_6)$ 

(xxi) Copper beryllium alloys

(xxii) Cadmium sulphide

(xxiii) Beryllium oxide

(xxiv) Cadmium oxide

(xxv) Decabromodiphenyl ether (DecaBDE)

(xxvi) Pentabromodiphenyl ether (PentaBDE)

(xxvii) Octabromodiphenyl ether (OctaBDE)

(xxviii) Crocidolite

(xxix) Cadmium

(xxx) Chromium VI

(xxxi) Tris (2, 3 dibromopropyl) phosphate

(xxxii) Halogenated substances (CFCs, HCFC, HFC, HC)

(xxxiii) Perfluorooctane sulfonates (PFOS)

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SCHEDULE XVII Regulation 44

Application for EEE Permits 1.0. PARTICULARS OF APPLICANT 1.1. Names, Physical and Postal Address of Applicant (a) Name\_\_\_\_ (b) Physical address Postal address (c)(d) Telephone (landline) (e) Fax (f) Mobile Phone\_\_\_\_\_ (g) E-mail (h) Website 1.2. Name and Details of Contact Person Name (a)Physical address\_\_\_\_\_ (*b*) Postal address (c)Telephone (landline)\_\_\_\_\_ (d)(e) (f) Mobile Phone (g) E-mail\_\_\_\_\_ (h) Website\_\_\_\_\_ 2.0. LEGAL STATUS OF ORGANISATION AND NATURE OF BUSINESS 2.1. Indicate Legal Status of Organization (Tick relevant option) (a) Sole proprietorship; (b) Partnership; (c) Public Limited Liability Company; (d) Private Limited Company;

(e) Co-operative Society ; and

(f) Other (please specify).

(Attach Certificate of Registration, Certificate of Incorporation, Memorandum and Articles of Association, Deed of Partnership, Deed of Trust, as applicable)

.

# 2.2. Nature of Business

State nature of business and type products/services produced or rendered by organization\_\_\_\_\_

Address of Applicant	L. Names, Physical and Postal
<ul><li>3.0. TYPE AND NATURE OF PERMIT</li><li>(a) used EEE import permit ;</li></ul>	REQUIRED
<ul><li>(b) used EEE export permit ;</li><li>(c) e-waste Collection centre I</li></ul>	Permit ; Postal address
(d) e-waste Recycling Permit	; permit ; and antibast) enodopted
(f) industrial/commercial discl	harge permit.
.1. State the type of permit require	Website

3.3. State whether organization has an existing permit issued by the Agency (except 3a, and b above)

3.4. If answer to 3.3 is yes, state the nature of the permit, the date of issue and license number

3.5. Does the organization own more than ten (10%) shareholding in another entity that has applied for permit or has been granted license by the Agency?

3.6. If the answer to 3.5 is yes, state the name of the entity, the nature of business, the nature of the application or permit, the date issued and permits number

3.7. Has the Applicant ever been denied a license or has its permit ever been suspended or revoked by the Agency?

3.8. If answer to 3.7 is yes, give details of the denial, suspension or revocation

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## 4.0. TECHNICAL CAPACITY AND MANAGERIAL EXPERIENCE

4.1. Provide detailed statement of Applicant's technical competence and experience with regard to the permit applied for

4.2. Provide detailed statement of Applicant's managerial competence and experience with regard to the permit applied for

......

4.3. Describe any technical or financial support from internal and external sources with regard to the permit applied for (if any)

4.4. State the name and brief resume of the Agency's accredited consultant(s)/contractor(s) involved in pollution control programmes in your organisation (attach details if possible)

4.5. State the number, qualifications and experience of staff involved with pollution control programmes at the facility

5.0. NATURE OF OPERATIONS IN THE FACILTY

5.1. Describe plant facilities and production figures (please attach engineering drawings and layout of factory and process line). Applicable to 3c, d, e and f above,

5.2. State results of quantitative and qualitative sampling of liquid and gaseous effluents from the facility for at least the past one year (if available)

5.3. List all the toxic substances used or manufactured on the site. Except 3a, b, and c

5.4. Describe pollution abatement/monitoring facilities on site (including details of year of installation, capacity, etc). Except 3a and b;

5.5. List all chemicals in use at the facility (no trade names). Except 3a, b, c and e

5.6. List all intermediates and final products at facility including details of storage conditions(s). Applicable to 3d and f

2

5.7. State the distance and specific location of facility from residential areas, other sensitive ecosystems such as freshwater bodies and vegetation (attach map), and other existing industries (include name of such industries). Applicable to 3d, e and f

5.8. State effluents characteristics, discharge (outfall) locations, and possible compliance monitoring and inspection points (attach illustration)

5.9. Describe in detail the waste disposal methods available at the facility

5.10. State any safety/contingency plan(s) operational at the facility (attach details)

5.11. Provide any other relevant information that could support and facilitate the processing of your application (attach details if necessary)

(Attach an Environmental Impact Assessment Report if the application is for a new facility) 6.0. DECLARATION BY THE APPLICANT

(Notary Public/Commission of Oaths' Seal and Attestation Required)

I/we hereby declare that the details stated above are, to the best of my/ our knowledge, true and correct.

DATED this......day of .....20.....

THE COMMON SEAL OF THE WITHIN NAMED APPLICANT

Has hereunto been affixed in the presence of :

Sign.....Sign..... Name Name Director-General or/CEO Secretary

BEFORE ME

Notary Public/Commissioner of Oaths

4.0. Recommendation by In-house Committee \_\_\_\_\_

5.0. Decision/Approval by the Director-General 

6.0. Issue Date of Permit\_\_\_\_\_ 7.0. Expiry Date of Permit\_\_\_\_\_

Z

8.0. Permit Number\_\_\_\_\_ 9.0. Other Relevant information\_\_\_\_\_ 

MADE at Abuja this 28th day of April, 2011.

MR JOHN ODEY Honourable Minister, Federal Ministry of Environment